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ABSTRACT

The belief that fiscal support of a postsecondary institution is directly related to its overall excellence has been generally accepted and used as an argument when seeking funds for achieving excellence. Problems arise, however, in citing specific data to substantiate this claim. To determine the effect of changes in fiscal support on the quality of educational programs in California's community colleges, it is necessary to develop and improve the capacity to assess excellence. By examining the literature and research on the community college and focusing on the basic functions of these schools, 18 quality measures can be identified, each with a specific sensitivity to fluctuations in financial support. These measures are peer evaluation of teacher effectiveness, student evaluation of teacher performance, faculty burnout, student/faculty ratio, staff development expenditures per full-time equivalent (FTE) faculty, student commitment/motivation, aid expenditures per FTE student, total enrollment, average faculty salaries, library expenditure per FTE student, value of assets per student, full-time/part-time faculty ratio, state support per average daily attendance (ADA), resource allotment for direct education expense per FTE student, educational and general expenses per FTE student, alumni evaluations, student success, and value added. Faculty burnout, staff development and library expenditures, and state support per ADA are the most sensitive to funding level changes. (LL)

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THE SENSITIVITY OF EIGHTEEN QUALITY MEASURES OF CALIFORNIA COMMUNITY COLLEGES TO FLUCTUATIONS IN FUNDING

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Presented to:

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June 6, 1983

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INTRODUCTION

The concept that fiscal support of an institution of higher education is directly related to the overall excellence and has generally been accepted and used as an argument when seeking money for achieving excellence. More money means more quality and less money means less quality is heard over and over in budget hearings. In the California Community Colleges, for example, the total budget in 1982-83 was cut by One Hundred and Ten Million Dollars. It is currently being argued by community college supporters that this cut and any future cuts will greatly affect the overall quality of the community colleges. The problem occurs when these people try to cite specific data which substantiates their claim. The basic question, therefore, is what affect do changes in fiscal support have upon the quality of educational programs in California community colleges?

To be able to answer this question, it is necessary to develop the capacity to measure quality in community colleges. Subjective measures such as opinion poll surveys (see Cartter, 1966; Gourman, 1977) have been used to collect opinions from administrators, faculty, industry personnel, etc. to which institutions are best in the country. The results of these reputational rankings are strongly related to the selectivity of the institution in regard to entering freshmen, the size of the enrolling class, and the size of the graduate faculty. (Astin, 1982) Objective measures, such as faculty salaries, library size, selectivity,

expenditures per student, etc. have also been used in quality studies (Astin and Henson, 1977). From studies where objective measures and institutional attributes were correlated, the most significant relationships were found between enrollment size and academic caliber of the freshman class (mean admission test scores).

The reputational and objective approaches to measure quality in higher education both result in community colleges being "lumped" together as the about-equally-lowest-quality institutions. To determine what changes in support due to quality, we must first define new objective measures of quality which will allow for the assessment of excellence and allow changes to be measured over time.

Eighteen quality measures are proposed in this paper. Some of these have been used in previous studies (Henson, 1980), and others have been devised by examining the literature and the basic functions of the community colleges. Most of the data needed to utilize these measures is available in reports submitted to the Chancellor's Office of the California Community Colleges and faculty surveys.

Each of the quality measures have a specific sensitivity to fluctuations in financial support. In this paper an attempt will be made to determine which quality dimensions are most sensitive and which are less sensitive to changes in funding.

DIMENSION OF QUALITY

In measuring the quality of the educational program of community colleges, the most important aspect is the teaching which goes on in the classroom. Excellence in teaching means effectiveness in teaching. The more effective the teachers, the higher the quality of the college. The vigor, excitement, concern, and interest with which the faculty members approach their teaching assignment is the single most important measure of the quality of the community colleges. The major problem, though, is how do you measure the teaching effectiveness? The following measures of quality address the question of what is happening in the classroom.

1. Peer Evaluation

The best evaluator of teacher effectiveness is a trusted colleague who will be able to present non-threatening criticism and evaluation. (Astin, 1982). The presence in a college of this procedure would greatly enhance the overall quality.

2. Student Evaluation

Evaluations which are anonymous and designed for the teachers' eyes only are very important in increasing teaching effectiveness. They act as a continuous feedback for the faculty and allow for the constant improvement of the teachers' effectiveness.

3. Faculty Burnout

The measure of the percentage of faculty which report that they feel "burned out" indicates a great deal about how effective

the faculty will be. Burnout has been related to fatigue caused by environmental pressures beyond the teacher's control. For example, facing a succession of years doing the same tasks for the same pay. Cohen and Brawer (1977) found a high positive correlation between faculty age and job satisfaction, which is related to burnout. The data necessary for this measure is collected through faculty surveys. Colleges with higher percentages of faculty reporting burnout will probably have less vitality and excitement. This will indicate a lower quality rating.

4. Student/Faculty Ratio

This measure is constructed by dividing the full-time equivalent (FTE) faculty count by the FTE student enrollment. Henson (1980) took into account the parttime instructors and students by adding one-third of the parttime count to the full-time count. It has been assumed that students get more direct contact with faculty in the community college. If this is true, and it increases the teaching effectiveness, then colleges with a lower faculty/student ratio would be higher quality.

5. Staff Development Expenditures Per Faculty FTE

Since research and graduate education is not the primary responsibility of community college faculty, they are not as likely to keep up to date with the expanding knowledge base. Staff development activities, such as sabbaticals, seminars, professional meeting attendance, team teaching, etc. are needed to keep current. Colleges which invest more of their resources in staff development will have a higher quality of instructional program.

A quality measure which has been examined in great detail when ranking institutions of higher education is the selectivity of the institution. Selectivity is very important in universities and four-year colleges, but does not apply to community colleges since there is an open-door policy in all colleges. There are three other measures which may give more information about community college quality other than selectivity. They include the following areas.

6. Student Commitment/Motivation

When examining entering freshmen to high-quality institutions, a characteristic they exhibit in addition to high test scores is that they have high motivation and a sense of direction. This characteristic could be measured in community colleges by measuring the number of students in each college which matriculate by declaring a goal and exhibiting progress toward that goal. The higher the percentage of serious students, the greater the level of quality.

7. Aid Expenditures Per Student FTE

Another piece of data which may help to determine characteristics of the student is the amount of aid given to the student. Research by Henson (1980) has shown that the relative affluence of the students has a relatively high correlation to quality of the institution.

8. Total Enrollment

Size may be a factor in quality measurements of community colleges. Two ideas may pertain. When the college is too large the students may tend to get "lost." In very small colleges there

may be a problem with offering a well-rounded program. Specialized classes may be hard to support and not well attended. Equipment and facilities may be inadequate since there are fewer students to generate income. In other words, the economy of size concept may be a very important aspect of quality.

Measures of institutional quality must include a group of resource measures. In California community colleges, these measures vary tremendously due to the unequal levels of support for districts, differences in local taxes, and board assessments. Several variables will reflect the levels of resources available to support quality.

9. Average Faculty Salaries

The salary of the faculty is calculated by averaging the overall ranks of the district salary schedule. A reasonable salary scale will ensure effective recruitment and prevent the loss of experienced faculty to industry. These two aspects present serious talent drains which can have an adverse impact on the quality of all colleges.

10. Library Expenditure Per Student FTE

The library of each college is the central resource of the teaching program. All academic programs utilize the library to varying degrees. The support of the library will indicate the institutional support of the academic program.

11. Value of Assets Per Student

This variable is found by dividing the value of the land, buildings, and equipment by FTE enrollment. The indication of this measure is to the quality of the facilities and equipment.

This indicates how the college is keeping up with changes in technology and delivery techniques. Over time, this measure will demonstrate the growth in the college.

12. Full-Time/Parttime Faculty Ratio

When most colleges were small, part-time instructors were utilized to offer breadth of offering. They were able to offer more specialized courses. As time went on, the parttimers were utilized for teaching at odd times, locations, and at a salary less than for full-time instructors. Cohen and Brawer (1977) reported parttimers were less experienced, had spent fewer years in their current institutions, were less likely to hold membership in professional associations, read fewer scholarly and professional journals, and they were less concerned with broader aspects of curriculum and instruction of the disciplines they represent (Cohen, 1982). Therefore, the relative numbers of parttimers in a college must have an affect on overall quality.

13. State Support Per ADA (Average Daily Attendance)

The amount of money from the State varies from about seventeen hundred dollars per ADA to twenty-four hundred dollars per ADA. This disparity has an impact on quality by increasing the part-timers problem and the amount of money available to educate each student. In the lower revenue district, there are not as many resources available to support high-quality programs. The inequity of funding does not foster quality.

14. Resource Allotment For Direct Educational Expense Per Student FTE

This measure of quality has been addressed since 1851. The intent of the original statute was to earmark a specific percentage

of a district's income or expenditure to be spent for salaries of teachers (direct educational expense). In this day, the percentage has been set at 50 percent and this regulation is known as the 50 percent law. The compliance with this law, though, is variable in that several districts have applied for, and been granted, waivers. Of the seventy districts in California, the district expenditure percentages range from 58.6 to 44.0 in the '79-'80 year. (Nussbaum, 1981).

15. Educational and General Expenses Per FTE

The amount of money expended for educating students may not be reflective of the entire support of the program. The difference between the income and the expenditure may be accounted for by the amount of money being shunted into the reserves. Reserves have little to do with the quality of the educational program.

Another approach to the measurement of the quality of a college's academic program is based on what happens to the students while they attend a college. One way to measure this is to use an outcome approach. Looking at the success of the students after leaving the college is important to consider in measuring a college. A second approach is to measure what was added to the student during his attendance in the college.

16. Alumni Evaluation

One way to ascertain the success of an educational program is to allow the alumni to evaluate effectiveness after leaving the college. The comments and suggestions can be used to maintain and increase the quality of the program. The college should have a process for feedback to constantly update and improve its program.

17. Student Success

When students matriculate in a community college, they will state an objective. Successful attainment of this goal, whether it be transfer, vocational, or remedial, can easily be measured to indicate success.

18. Value Added

Measures of what a student gains from an educational program can be ascertained by administering a pre-test and post-test. The pre-test could be an exit test from high school, or a test devised for entry into an academic or vocational program. At this time A.M. Cohen is developing a Liberal Arts test which could serve this purpose for transfer students. Other tests for vocational students must be developed to accomplish this goal on the vocational side. The assessment of value added must be different for these two functions of the community colleges.

THE EFFECT OF FUNDING FLUCTUATIONS

When trying to ascertain the effect of changes in funding on the quality of a community college in California, it becomes obvious that reduced or increased funding will have varying degrees of influence on the dimensions of quality previously described. Some quality measures which are directly tied to money will be very sensitive to changes in support and will show the fastest increase or decrease. Other measures not directly dependent on funds will change, but in a slower, more subtle way.

Table I represents an attempt to affix a sensitivity level to each of the eighteen measures of quality. A sensitivity value of one indicates measures which are most directly effected by funding level changes. Sensitivity values of four are the least sensitive and will change more slowly.

TABLE I

The Sensitivity of Quality Dimensions

Classroom	Sensitivity
1. Peer Evaluation	4
2. Student Evaluation	4
3. Faculty Burnout	1
4. Student/Faculty Ratio	2
5. Staff Development Expenditures Per Faculty FTE	1
Students	
6. Student Commitment/Motivation	4
7. Aid Expenditures Per Student FTE	3
8. Total Enrollment	3
Resources	
9. Average Faculty Salaries	2
10. Library Expenditure Per Student FTE	1
11. Value of Assets Per Student	2
12. Full-Time/Parttime Faculty Ratio	2
13. State Support Per ADA (Average Daily Attendance)	1
14. Resource Allotment For Direct Educational Expense Per Student FTE	3
15. Educational and General Expenses Per FTE	2
Outcome and Value Added	
16. Alumni Evaluation	4

Outcome and Value Added (Cont'd.)	Sensitivity
17. Student Success	3
18. Value Added	2

1 = very sensitive

2 = moderately sensitive

3 = slightly sensitive

4 = no sensitivity

CONCLUSIONS

Using the eighteen quality measures presented in this paper, it may be possible to stratify community colleges according to level of quality. This would represent an advance over the current measures which continually rank all community colleges as being low quality. Measures such as these may allow measurement of an aspect of the college environment which is constantly referred to, but has been impossible to define. Using the statistics available, it may be possible to identify the factors which have the highest positive correlation to quality.

In addition, if the measurement of quality could be identified, then the impact of changes in funding could be studied in detail and arguments in favor of a greater proportion of financial support could be based on data instead of feelings.

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